



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF : John Grassi et al.  
FOR : **MOLD-REMOVAL CASTING METHOD  
AND APPARATUS**  
SERIAL NO. : 10/614,601  
FILED : July 7, 2003  
EXAMINER : Ing Hour Lin  
ART UNIT : 1725  
CONFIRMATION NO. : 7816  
ATTORNEY DOCKET NO. : **GISZ 2 00031**

**DECLARATION UNDER 37 C.F.R. § 1.132**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

The undersigned declares as follows:

1. My name is Dr. J. Fred Major and I am a Research Scientist working in the area of Physical Metallurgy, Solidification, and Shape Casting at Alcan International Limited.

2. I have been involved in the metals and castings industry for the last 16 years. I am particularly well versed in the various known processes for casting metals, particularly aluminum, to form various parts and components, such as for aerospace or automotive applications.

3. I have been approached by Alotech, the assignee of U.S. Application Serial No. 10/614,601 concerning certain technology. More particularly, Alotech has asked me to review a process for the casting of metals. The process comprises the steps of:

"providing a mold;  
delivering a molten metal into the mold;

solidifying the molten metal; and,  
removing at least a portion of the mold wherein the step of removing the mold begins before the step of solidifying the molten metal has been completed."

5. To my knowledge, I have never seen any casting process wherein the mold begins to be removed before the molten metal has solidified into a casting.

6. Alotech employs water as a solvent to decompose at least a portion of the mold while making a casting using aluminum. More particularly, Alotech decomposes at least a portion of the mold with a solvent including water wherein the step of decomposing begins before the molten metal has completely solidified into a shaped casting. I have never before seen such a process.

7. In fact, such process is counterintuitive because molten aluminum and water can react vigorously, causing explosions. Therefore, it is highly surprising to me that Alotech has developed a process for casting an aluminum metal in which at least a portion of the mold is decomposed with a solvent including water, before the molten metal has completely solidified into a casting.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Respectfully submitted,

By *J.F. Major*  
Printed Name: J.F. MAJOR  
Date: 19/8/05